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**Journal of the Society of Arts.**

FRIDAY, JANUARY 2, 1857.

**POSTAL ARRANGEMENTS.**

The Postmaster-General, anxious to promote rapidity and correctness in the delivery of letters, has, for postal purposes, divided London and its environs into ten districts, each to be treated, in many respects, as a separate town; and, to render this arrangement effectual, he earnestly requests that every means may be taken by the public for causing letters to be directed according to the district for which they are intended. Initials will suffice.

The house of the Society of Arts being situate in the West Central district, letters on the business of the Society should be addressed thus:—

*The Secretary of the Society of Arts,  
Adelphi.  
W. C.*

or, when from the country thus:—

*The Secretary of the Society of Arts,  
Adelphi,  
London.  
W. C.*

The Postmaster-General suggests other means of inducing this practice, that, when convenient, each resident in a district should add the name of the district, or the initials, to his own address inside his letters when writing to correspondents, and on his address card. Also, that if in business, he should give the name of the district, or the initials, in the heading of bills or invoices, in advertisements or placards, and on any article of manufacture which may bear his address.

If the initial letters be thus regularly appended, the Department will be able to assort, with facility and correctness, the country letters, according to their respective districts, before they reach London in the morning.

**MICROSCOPIC OBJECTS.**

Messrs. Parkes and Son, 5, St. Mary's-row, Birmingham, are prepared to supply microscopic objects suitable to the Society's prize microscope, at reduced rates, to members of the Society, and to Institutions and Schools in union, forming an "Educational Series."

The following preparations have just been completed, every object is numbered and named, and a descriptive essay accompanies each set:—

"Class A" is an introductory set, consisting of 24 preparations of various kinds, neatly fitted in a leather case, accompanied by a descriptive essay, entitled "Microscopic Revelations," 10s.

"Class B" consists of 24 insect preparations, in a leather case, accompanied by a popular description of the structure of insects, forming a practical introduction to the study of Entomology, 15s.

"Class C" contains an interesting and valuable series of 35 vegetable preparations, in a leather case, illustrating the Microscopic structure of plants, each object being numbered and described, so as to form a practical introduction to the study of Botany, £1.

Other series will probably be issued, comprising fossil infusoria and sponges, anatomical preparations, illustrations of adulterations in articles of food and commerce, &c., &c.

Anatomical injected preparations are to be had at 16s. per dozen.

Cheaply mounted objects for beginners, suitable for the smaller prize microscopes, are supplied at 1s. per dozen.

A discount upon these prices will be allowed to Members of the Society, and to Institutions and Schools in Union.

Messrs. Heylin, of 28, Paternoster-row, have been appointed Agents in London for the sale of these articles.

**RATING OF INSTITUTIONS.**

The following letter has just been sent to all the Literary and Scientific Societies and Mechanics' Institutions of the Kingdom, so far as they are known:—

**RATING OF LITERARY AND SCIENTIFIC SOCIETIES  
AND MECHANICS' INSTITUTIONS.**

*Society for the Encouragement of Arts, Manufactures, and Commerce, Adelphi, London, Dec. 29, 1856.*

SIR,—In the course of last Session a bill, prepared under the direction of the Society of Arts, for amending the Act 6 and 7 Vict., c. 36, to exempt from local rates Land and Buildings occupied by Scientific and Literary Institutions, was brought into the House of Commons by Mr. Ewart, Mr. Hutt, and Lord Stanley, Vice-Presidents of this Society. The bill, having in the face of a strong opposition passed the second reading, was dropped, owing to the late period of the Session.

In the coming Session of Parliament this bill will be reintroduced, with such amendments as the experience of the last Session and the suggestions of the Institutions will enable the Council of this Society to supply.

The subject having for some time been under the consideration of the Council of this Society, the following Minute was passed at a meeting of that body held on the 17th inst., and I am instructed to invite your attention to it:—

"The Council having taken into its consideration the present unsatisfactory position, with regard to the rating of Mechanics' Institutions and other like public bodies engaged in the advancement of education, as also the present indefinite state of the law as enacted in the 6 and 7 Vict., cap. 36, do hereby resolve that petitions under seal from the Corporation of this Society, shall be presented to both Houses of Parliament early in the ensuing Session, praying that Mechanics' Institutions and other like public Societies established for the promotion of education and the advancement of knowledge, shall be exempted from the payment of rates.

"That to enable the Society to present a strong case for the favourable consideration of the Legislature, it is necessary that the Council should be in a position to state with accuracy the names of all the Mechanics' Institutions and other like Societies now in operation, the present number of members belonging to each, the number of volumes in their reading-rooms, the average number of lectures annually given, whether there are classes for day and evening instruction, in what subjects, and the average number of pupils attending each class."

In accordance with the foregoing Minute, I am directed to request the favour of your furnishing me with the necessary particulars (see form on the following page), to enable this Society to include your Institution in the tabular returns it is proposed to lay before Parliament, and to establish a general system of united action, with a view to induce the Legislature to encourage the multiplication and development of Institutions, which, rightly conducted, tend so powerfully to amend the social condition of the people.

I am further instructed to add that, should you desire to be supplied with suitable forms of petition to the Houses of Parliament, to be presented by those members of the Legislature who are locally connected with your Institution or neighbourhood, I shall transmit the same to you on your returning to me the annexed form duly filled up.

I am, Sir, your obedient servant,

P. LE NEVE FOSTER, *Secretary.*

\*\* Should there be any Institution or Scientific Society in your neighbourhood to which a copy of this

circular may have been omitted to be sent, on your forwarding to me a note of the name and post town, a copy shall be transmitted.

The following is the form of return required, and if any Institution has not received a copy, it will be supplied on application:—

(Return Paper.)

Name of Institution (in full) _____	
Post town _____	
When was the above Institution founded ?	
What is the present or average number of <i>paying</i> members in your Institution ?	
What is the number of volumes in your reading-room or library ?	
Are lectures given in your Institution ? If so, what number was delivered last year ?	
Are there day or evening classes in your Institution ? If so, in what subjects, and what is the average number of persons attending each class ?	
What is the average annual income of your Institution ?	
Is your building rented, or is it the property of your Institution ?	
Are there any suggestions which your Managers would desire to make with respect to the provisions which should be introduced into the Bill now in course of preparation by the standing Counsel of this Society ? If so, please to transmit them with this form.	
Do you desire draft forms of petitions to parliament to be forwarded to you to be presented by your local members ?	

This form is requested to be returned not later than the 19th of January, 1857.

#### ECONOMIC LIBRARY.

It is desired to form, in the Library of the Society of Arts, a special collection of English and Foreign publications, relating to the condition of the Working Classes, and the means for improving it.

This collection will particularly include the programme and annual reports of the various Provident and Benevolent Institutions in the metropolis and the provinces, and other minor publications, which are frequently required for reference by persons practically engaged in promoting the improvement of the physical and social condition of the people; but which, from their inconspicuous appearance, are not generally classed among the available contents of a public library.

As the plan can only be carried out to full advantage by extensive co-operation, persons who can supply or obtain through their friends publications or documents of the nature pointed out in the following summary, are invited to forward them to the Secretary.

N.B. The following indications are not to be considered as exclusive. Other subjects will suggest themselves by analogy.

I. Programmes, Regulations, Annual Reports, &c., showing the organization of, and results obtained by, the various Institutions established for the benefit of the Industrious Classes, such as Model Dwellings, Dormitories, Sailors' and Servants' Homes, Baths and Wash-houses, Soup Kitchens, Working Men's Coffee Rooms, *Fourneaux Économiques*, Dispensaries, Hospitals, Asylums, Eleemosynary Institutions, Reformatories, Schools for the Blind, Deaf, and Dumb, *Crèches*, or Public Nurseries and Infant Schools, Ragged Schools, Industrial Schools, Evening Classes, Mechanics' Institutions of every kind, Village Libraries, Clothing and Provision Societies,

Friendly Societies and Benefit Clubs, Savings Banks, Pawn Houses (*Morts de Piété*), Trades Associations, Land and Building Societies, Allotment Societies, Societies for the Protection and Guidance of Emigrants, Societies for the Patronage of Apprentices.

As it is the evident interest of the foregoing Institutions to become more extensively known, it is hoped that their Secretaries will be disposed to favour the Society of Arts with their respective papers.

II. Publications and documents relating to the Domestic Economy of the Working Classes, including Building Designs and Materials, Fittings, Furniture and Household Utensils, Clothing, Food, its production, commercial supply, preparation, adulteration, &c.; Fuel, and other domestic requisites.

III. Publications and documents relating to various departments of Sanatory Economy, such as Drainage, Sewerage, Water Supply, Ventilation, Removal of Nuisances, Prevention of Casualties by Inundations, Shipwreck, Fire, &c.; Protection against the effects of Hot, Cold, Dry, Damp, or changeable Climates; Prevention or Relief of the Accidents, Injuries, and Diseases which attach to many handicraft occupations; Organization of Medical Assistance.

IV. Essays and other Publications relating to the Social Condition of the Industrious Classes; the relations of Employers and the Employed; the Organization of Labour, &c.

V. Acts of Parliament, Official Reports, Statistical Returns, &c., bearing on the before-mentioned subjects.

VI. Manuals and Hand-books for Special Classes or Trades.

VII. Publications describing or illustrating the condition of the Working Classes in the Colonies or in Foreign Countries.

VIII. Periodicals intended for the use of the Working Population or their friends.

Further indications will be found in a printed list of papers already presented to the Society of Arts, of which copies may be had on application to the Secretary.

In absence of the publications themselves, particulars of them, and of the address where they may be obtained, will be thankfully received.

It is contemplated to form a classified list of all that has appeared in print within these last five or six years, of a nature to interest the friends of the Working Classes, and to continue this catalogue from year to year.

It was agreed at the International Congress lately held at Brussels, that each country should forward such a list once or twice a year to a Central Committee at that place, in order that the whole might be published as an International Bulletin.

The Right Hon. W. Cowper, M.P., President of the Board of Health, and Mr. T. Twining, jun., one of the Vice-Presidents of the Society of Arts, were requested to undertake the correspondence with the Central Committee on behalf of England, and they will gladly avail themselves of the assistance of persons taking a special interest in any department of Social Economy or Practical Benevolence.

A list of French publications, which may prove valuable to the friends of the working classes in this country, has been published in the *Annales de la Charité*, and may be referred to in the Society's Collection.

#### UNITED ASSOCIATION OF SCHOOLMASTERS.

The Third Annual Meeting of this body was held in the room of the Society of Arts, by permission of the Council.

The Rev. Dr. BOOTH, F.R.S., Treasurer of the Society of Arts, delivered the inaugural address, which was as follows:—

On the invitation of your president and committee,

now two successive years conveyed to me, I appear here before you this evening to handle questions of the highest interest to all classes, but in an especial manner such to you. I will not enter into details of school management, or argue questions of school discipline, matters in which I should hardly venture to advise you, much less presume to dictate to you. I will rather use the short time placed at my disposal to enlarge upon topics of more general interest and more pressing importance.

I may, however, be permitted to make this one observation—that it should be your object to implant principles, and not to follow the example of those who waste their pupils' time over mere matters of detail. How often do we see boys' minds loaded with dry statistical facts, and tabular results, which are but of little value, unless strictly accurate, which can never long be retained so, and which always can be had in some handy book of reference when required. A lad might as well be set to get by heart a table of logarithms, as some of the statistical information he is required to commit to memory. When one has mastered the few broad principles which constitute the foundations of a science, he will be in a position, if he has but energy and perseverance, to build up, so to speak, with his own hands the edifice itself, instead of looking on with the vague notions of a spectator, and seeing the work done by others. Rules are but the last results of a profound knowledge of the principles, whether of a language or a science. To start with committing rules to memory, instead of developing principles by the understanding, is to invert the order of nature, who first teaches the language by the ear, or informs us through the senses of those common facts, in the sagacious appreciation of whose value every experimental science has more or less originated. Thus the greatest linguists, such as Murray, Magliabechi, first learned a language by nature's process, and then educated its rules. Galvani, or rather Volta, developed the laws of that mysterious science, galvanism, setting out from a fact, which, or some one cognate to it, must have been observed before. The electric telegraph owes its invention to an observation made by CErsted, the Swede—but I stop short—I might occupy the whole of my time in illustrations of this kind.

It has often been objected to the friends of education and progress in our own time that they do not retain that traditional reverence for antiquity, that veneration for great names, which distinguished the promoters of intellectual advancement at the birth of modern civilisation, that we no longer feel that exclusive admiration for the literature and science of Greece and Rome, which, three centuries ago, was a marked characteristic of everyone who professed to cultivate either literature or science. Now, this veneration for ancient wisdom is founded on an erroneous comparison. The young naturally confide in the experience and knowledge of the old; and as the old have preceeded them in point of time, we are led by the seeming analogy to look upon the early period of the world as its old age instead of its youth. Lord Bacon, in his "Advancement of Learning," says, "Certainly, our times are the ancient times when the world is now ancient, and not those which we count ancient, *ordine retrogrado*, by a computation backward from our own times." Again, an exaggerated admiration of antiquity, and a sort of longing regret for times passed away, are by no means hopeful signs of a present healthy progress. It has sometimes been remarked of those who have descended from a long line of ancestors, and degenerated in the descent, that they were satisfied to place their claims to consideration, not on the grounds of personal merit, but on the greatness of those who have gone before them. The same is as true of nations as of individuals. Mitford, in his "History of Greece," if I rightly recollect, somewhere observes, that Diodorus and Plutarch, by their extravagant eulogies on the extinct republics and legendary heroes of antiquity, tried to console themselves for the degeneracy of the times in which

they wrote; that by their enthusiastic admiration of forms of government that had been abolished, they indirectly censured the enormities of the grinding despots under which they scarcely could call even their lives their own, and that the tone in which they lauded the liberties they had lost was the surest index of the slavery under which they groaned. The same tone of saddened retrospection pervades the fine preface of Livy's immortal history.

But, independently of these considerations, there is a legitimate cause for this admiration of antiquity, and you will bear with me while I develop it at some length. Let us in imagination go back to the year 1500 of our era, or thereabouts; let us suppose a man somewhere in the South of Europe, or on the coast of Western Asia, within sight of that purple sea, beyond whose sunny shores civilisation had never yet been able to advance. Let us further suppose him to be profoundly versed in all human learning, and acquainted with every cardinal event in man's history. What, let me ask, are the reflections that would naturally arise in the mind of so accomplished and philosophical a spectator taking a comprehensive view of the annals of mankind, and of the progress of civilisation, from its earliest recorded dawn down to his own time? He would have seen all human knowledge either absolutely stationary or actually retrograding. He would have seen that the science of his own day had not made a single step in advance during the long period of 1,700 years, from the state it was left in by Archimedes and Euclid and Apollonius; that the science of medicine had dwindled down into a mere empirical art since the days of Hippocrates and Galen; that there was no body of laws worthy of the name but the Roman code; that alchemy flourished, for chemistry was not yet; that astrology had displaced the little astronomy that was known; that there was absolutely no such thing as physical science; that the multitudinous facts of natural history had yet to be observed and noted. That in poetry, oratory, architecture, and the kindred arts of painting and sculpture, the ancients transcended rivalry or even successful imitation. In short, that the whole sum of human knowledge, scant as it was, had continued absolutely without sensible augmentation during 18 long centuries of man's eventful history. That the acutest wits and the most subtle intellects, were forced to move round and round in the same dull circle, and thresh the straw that had been threshed a thousand times before. That the profoundest genius failed to make even the shallowest discovery either in art or science; that the most learned men occupied themselves century after century in piling up pyramids of commentaries on those wondrous men, Plato and Aristotle, who, like the Pillars of Hercules in the old mythology, separated the clear, the definite, the settled, and the known, from the dark, the vague, the boundless, and the obscure. When, moreover, our supposed inquirer, continuing his survey, would have learned that whole regions of the earth's surface were passing clean out of the knowledge of civilized man; that the ideas which learned professors and adventurous travellers formed about countries not far remote, were vague and contradictory; that less was known four centuries ago about the geography of the world than in the time of Herodotus, Strabo, Ptolemy, or even Agatharchides; that many inventions and curious processes in the arts had actually perished, and which have never to this day been rediscovered. When, moreover, looking to the political aspect of the world, he would have seen the very fairest and most hallowed regions of the earth's surface overrun by the wild fanatics of Arabia, and trodden down by the barbarian hordes of Turkistan, who, with wide unbroken front, were advancing like the ocean tide rushing up the narrow estuary, to overwhelm, in one undistinguishing flood, all that had remained of the ancient civilisation; and when, lastly, it is recollected that to such an ideal spectator, contemplating the history of man's progress

upon earth, that great renovating institution, the Church, would have presented herself, not as the living breathing incarnation of the Gospel, giving health and vigour to the worn out and used up nations of antiquity, but, like Niobe of old, petrified into stone, and become herself a huge stumbling-block in the way of progress—a rock of offence to those who saw not that her corruptions and errors were in some measure at least due to the trying times through which she had to pass.

From such a retrospect of the past, one could scarcely draw, with regard to the future, other than the most desponding conjectures. Men could scarcely foresee that as the night is darkest before the dawn, so out of this dense moral night and darkness of the human understanding a new order of things was soon to arise, and the light of a higher and better civilisation to gladden our humanity. It is no wonder that men, looking back through the long vista of time, and seeing that all that was worth preserving in literature, art, and science—whether it be poetry, oratory, or the drama—whether it be architecture, sculpture, or painting, was the creation of comparatively a small number of gifted men, and the birth of a few remote centuries, it is no wonder, I repeat, that men in those days had come to the conviction that nearly every thing that could be known was already known. In fact they had a special name for it. They called it the "omne scibile." They called it not "omne scitum," but "omne scibile," not merely every thing that was known, but that could be known. It is not strange that for those who had at once touched the limits, and reached the very outer verge of human knowledge, a feeling of admiration apparently akin to hero-worship, should have been felt, as being the greatest benefactors of mankind.

Let us now shift our standing point to the present time, and view the wonderful change produced in the aspect of human advancement. I will not dwell upon the multitudinous discoveries in natural knowledge, the glory of our age, because they are familiar to most of you, but I will take the science of pure space or geometry as an example of this progress, and the rather as this science is the creation of the pure intellect depending neither on experiment nor observation, the great instruments of modern discovery. Within the last forty years mathematical science has received a far greater development than in the entire period that intervened between Archimedes and Newton. Such has been the fertility of methods of research recently invented, that while formerly the discovery of a new theorem was enough to render a man's name illustrious, now they may as easily be found, and with as little trouble, as nuggets of gold on the other side of the globe. It is not, therefore, strange that amidst the crowd and brilliancy of modern discoveries, those which have been so long before the world should somewhat pale their brightness.

Before I pass from the consideration of this, the second birth of human knowledge, far more prolific than the first, there is a remark I would desire to make, and it is one of great interest. It is this, that all our discoveries, wherever made, in whatever art or science, all tend to the advantage of the masses, as contrasted with the great ones of the earth. Books, that once were in the hands of nobles and prelates only, sometimes worth even a king's ransom, are now, thanks to the art of printing, within the reach of the poorest of the community. Libraries existed before the days of Caxton—the newspaper and the reading-room are of a subsequent date. Again, consider how much human labour has been relieved by the application of gunpowder in great engineering and mining operations. Who shall compute the amount of human toil which a knowledge of the power of this agent would have saved in the piling up of the Pyramids of Egypt, in excavating the Temples of Ellora, or in cutting out the Sculptured Shrines of Elephanta? How much suffering of the masses would a little of this chemical science have averted in the building of the Roman aqueducts,

which a scientific appreciation of the simplest law of the equilibrium of fluids, now known to every schoolboy, would have shown to be superfluous. Need I do more than allude to steam, or to the steam-engine—that great modern Cyclops—or to the improvement and cheapening of iron, that most valuable of all the metals, or to the innumerable inventions in machinery, bearing on the cheap manufacture of textile fabrics, or to the application of mechanics and chemistry to agriculture? Only consider the facilities afforded to the poor man of conveying his labour, his only capital, to the uttermost parts of the earth by steam navigation and railway locomotion. The great in every age could travel luxuriously if not expeditiously, but now the artisan can travel with as much personal comfort as the gentleman could 30 years ago. Suetonius, speaking of Augustus, says, "He was borne along by slaves, and the gentle motion allowed him to read, write, and employ himself as in his cabinet. Though Tivoli is only 16 miles from the city, he was always two nights on the road." Well, then, to bear out my argument, there is gas more brilliant than wax-light and cheaper than the tallow dip. Electroplating and photography bring the finest models and the most truthful landscapes within the reach, if not of the labourer, at least of the mechanic. While, on the other hand, but little advancement is to be found in those things which minister exclusively to the luxury of the rich. Marble must still, as two thousand years ago, be the material which, so to speak, encrusts the breathing statue. Oil and canvass still supply the material elements of our finest paintings. Pearls have not diminished in value or improved in lustre since Cleopatra dissolved them in the wine-cups of her guests to show the extravagance of her magnificence. Science has revealed to us the analysis of the diamond, but art has not yet discovered the synthesis of this precious bauble. So that the ruby and the diamond, the sapphire and the emerald, still continue as untractable and as unchanged, as brilliant and as costly, as when they constituted, in the vision of St. John, the foundations of that new and holy city which had no need of sun or moon, and neither light nor temple were there.

This is, indeed, a very remarkable and striking characteristic of nearly all our great modern discoveries, that they tend to create or to cheapen, if already in existence, those things which improve the condition or tend to promote the welfare of the masses of mankind. Other discoveries, too, tend in the same direction. It is only a few days ago that in this room the intrepid and indefatigable explorer, Dr. Livingston, gave us an account of regions never hitherto trodden by European foot. He has opened up to us the only *terra incognita* which remained on the surface of the globe, if we except some portions in the interior of Australia, which are even now, while I speak, opening up their arid steppes and barren plains to British science, energy, and enterprise. And here let me further strengthen my argument by referring to the mighty influences which at this very time are being inaugurated by the operation of that mysterious agent of civilisation, the electric telegraph. Is not truth strange, stranger than fiction, when we are told that in this room we may have intelligence in a shorter interval of time from Constantinople or the Pyramids than from Primrose-hill. Why, the electric telegraph endows mankind with a sixth sense, and the fable of Lynceus becomes a tame and vapid story. Let me add further yet, that *foci* of the language in which I now address you are being established all over the globe, whence in ages yet to come will radiate the language of Shakspere and Milton, of Newton and Bacon, of Butler and Locke, and above all, the pure well of English undefiled, our standard translation of the Bible. The whole vast continent of North America, with the chief islands of the Carib Sea, speaks the English tongue. In South Africa it is heard. Livingston has carried it into the remotest recesses of that least-known of continents. In the vast regions of India it is the dominant language

from Cape Comorin to Cashmere ; the vast continent of Australia speaks no other ; it resounds along the coasts of China, and like a watchword echoes from island to island in the great South Sea.

Surely the cumulative force of all these arguments and considerations which I have placed before you give irresistible weight to this conclusion, and I cannot express it so happily as in the words of the Royal President of the Society in whose house we are met this evening, who, in his address at the Mansion-house to the mayors of the principal towns of the United Kingdom, is reported to have said :—“ Nobody, however, who has paid any attention to the peculiar features of our present era will doubt for a moment that we are living at a period of most wonderful transition, which tends rapidly to accomplish that great end to which indeed all history points ; the realisation of the unity of mankind ! Not a unity which breaks down the limits, and levels the peculiar characteristics of the different nations of the earth, but rather a unity, the result and product of those very national varieties and antagonistic qualities. The distances which separated the different nations and parts of the globe are rapidly vanishing before the achievements of modern invention, and we can traverse them with incredible ease ; the languages of all nations are known, and their acquirement placed within the reach of everybody ; thought is communicated with the rapidity and even by the power of lightning.”

In direct antagonism to this pervading principle of modern discovery—the benefit of the masses—to which I have just now directed your attention, is a custom which has grown up quite recently, and which would not have become a custom had the practice not been abetted by wealthy amateurs and selfish collectors. It is the most signal instance of modern Vandalism on record, and deserving of your deepest reprobation. I refer to the barbarous practice of plate-destroying to enhance the value of the impressions already taken. The wealthy collector is not satisfied with his proof impression of a plate before letters, unless he is assured that his poorer neighbour shall never enjoy even a ten thousandth impression of it. No humble Englishman is to be permitted to point out to his eager children how here an uncle fell on the plain of Balaklava, or how there a brother died for England on the heights of Inkerman, lest forsooth some retired pawnbroker should be shocked with the intelligence that some mechanic or other low person in the village had an engraving pinned up against the wall, just the very ditto of the one in the gilt frame hung up in the drawing-room. Now, what should we say if a few wealthy book collectors had proposed to enter into an agreement with our illustrious historian that no second edition of his great work should be published, and only a limited number of the first, so that Macaulay’s “History of England” might be shown to the curious behind a screen or in a glasscase ? Such a proposal would kindle an universal indignation, yet how does it differ in principle from the case of Vandalism I have brought under your notice ? Of the genuine aristocracy of this country, I will say this, they exhibit but little of that contemptible feeling. Their galleries are thrown open to or are accessible to the public. They freely lend their most valuable pictures for exhibitions, as just now at Manchester. They allow them willingly to be copied. How often do we see a like churlish feeling exemplified, when some old castle or baronial mansion, approached through huge branching oaks, those grand old trees, through shady dells and living walls of verdure, passes into the hands of some retired stockbroker or other millionaire ? The crumbling fence or ragged hedge, which beyond man’s memory let the poor wayfarer, or the tired traveller, or the sketching tourist, contemplate God’s beauties in the calm and quiet scene spread out before him, soon gives place to the snug brick wall, bristling with broken glass, and threatening notices to all would-be trespassers.

In the observations I have the privilege to address to you from this place, I may be permitted to assume that you are the representatives, at least for the present, of that numerous, useful, and important body, the educators of the youth of England. What this country shall be some 20 or 30 years hence, you have no small influence in determining. You are the connecting link between the present and the future. On a recent occasion I endeavoured to show, what may have seemed strange to some, that learning the elements of knowledge depends rather on the moral than on the intellectual nature of man—that it is rather a question of energy, of perseverance, of determined will, than of fine intellect or of original genius. It is told of some old Greek philosopher—I forget just now of whom—that when he was asked what was the best education for boys, replied, “ That which will best fit them to discharge their duties as men.” This is a great truth which ought never to be lost sight of. When this is practically forgotten, you ignore the very essence of education, which is to “ educate,” to “ draw out ” the faculties, as it were, for future use, and to “ instruct,” that is, to furnish the faculties so drawn out with available and useful knowledge. Remember, you are educating boys, who, when they leave you, are not to become pleaders in the law courts of ancient Athens, or candidates for office in the Forum of republican Rome. No : but it may be their lot in far distant regions of the globe, in the face of difficulties and dangers, under trials and temptations, to uphold the great name of their native country—to show that as she is first in arms, she is second to none in arts—that while they carry with them the instruments of civilisation, and the truths of science beyond the reach of barbarous tribes to understand, or if understood, to appreciate, they have not left behind them those qualities of justice, fair dealing, integrity and truth, which are instinctively patent to the whole human race. “ One touch of nature makes the whole world kin.”

To you a great trust is confided. On the character of a lad which has received its impress from you, may some few years hence depend the weal or woe of thousands. The boy who on one of your forms has learned to rule himself, may undergo that discipline which will qualify him to govern a subject nation. This is no impossible contingency, when you consider that the whole of the civil appointments, hitherto in the gift of the East India Company, have been by Act of Parliament thrown open to the widest and most unreserved competition. Bear in mind that you are not educating Italians or Poles, men whose education would have little influence either for good or evil beyond themselves ; but you are training up the great pioneers of civilisation, the men to whom under Providence it may be given to realise the community of nations.

Again, if you consider education with reference to its bearings on the welfare of our own country and the security of its institutions, you cannot but agree with me that the stability of everything we hold dear is based on the intelligent loyalty of our people, as this latter alone depends on their right education. What the people of this country will to be done, be it for good or evil, must be done. Need I refer to the Reform Bill, or to the repeal of the corn laws, or to the Russian war, all of which were carried through by the people themselves in despite of the most strenuous opposition. Louis XIV. used to say, “ I am the State.” The middle classes now with much greater truth may say, “ We are the State,” for when united on any question that question must be carried. They are, therefore, the depositaries of that despotic, absolute, irresponsible power which in every independent state must of necessity exist somewhere. Now, is it not a matter of the very highest importance that these classes should be instructed in their duties, that they should be taught how freedom, as it is the birthright of every Saxon, so is it in our day, the exclusive possession of Englishmen and their descendants.

They should learn how other nations, too, once were free, but lost their freedom, because they abused it, and did not know how to enjoy it. They should be shown how much wiser and safer is it to repair and restore than to pull down and demolish. They should be made to understand how a state of progress, how the condition of development is just as natural to the growth of society as it is to any other growth, whether animal or vegetable; how internal change may be consistent with the most perfect security, and promote the welfare of its members, just as the oscillations of the ocean, while they do not affect its mean stability, are the condition of life for all within its bosom. Teaching these principles of political action, you will breathe life into them by showing how they flow from the letter and the spirit of that Great Charter of human freedom, wrested from no earthly prince, but the free gift of the Eternal King; you know how he, who was himself a Roman citizen, disdained not to acknowledge as a brother Onesimus the slave.

I have now endeavoured to prove the importance of education, whether we look abroad or at home, whether we regard it as the true safeguard of our political and religious liberties, or as the means of making known to the many those truths brought to light by the unwearyed labours of the profoundest intellects among men. It is a signal test of the reality and rapidity of our progress, and the remark is due to Dugald Stewart, that "the discoveries which in one age were confined to the studious and enlightened few, become in the next the established creed of the learned, and in the third form part of the elementary principles of education. Among those who enjoy the advantages of early instruction, some of the most remote and wonderful conclusions of human reason are even in infancy as completely familiarised to the mind as the most obvious phenomena which the material world exhibits to their senses." It is, therefore, your duty to cultivate by every means in your power that love of knowledge, which is inherent in the human breast, though but too often dulled by the allurements of pleasure and indolence; you must, therefore, rouse a spirit of perseverance, energy, and self-reliance to come to your aid. To encourage the development of these moral qualities I know no means so effectual as competitive examination, now become so general, and now being carried into effect by the Society of Arts, for the benefit of the large number of Mechanics' Institutions and schools in union with it. I need not here enter into the details of this plan, which must be familiar to most of you, and is accessible to all. It was only this morning I read a review in the *Times* of Mr. Meadows's work on China. That gentleman, whom the reviewer admits to be qualified above all his predecessors to pronounce a just opinion on China, asserts it as his conviction that the stability, peace, and prosperity of that immense region, with its 300 millions of inhabitants, is due to the system of competitive examinations. Mr. Meadows maintains that "in every case the institution of public service examinations, which have long been strictly competitive, is the cause of the continued duration of the Chinese nation; it is that which preserves the other causes and gives efficacy to their operation. By it all parents throughout the country who can compass the means are induced to impart to their sons an intimate knowledge of the literature which contains the three doctrines above cited, together with many others conducive to a high mental cultivation. By it all the ability of the country is enlisted on the side of that government which takes care to preserve its purity. By it, with its impartiality, the poorest man in the country is constrained to say that, if his lot in life is a low one, it is so in virtue of the "will of Heaven," and that no unjust barriers created by his fellow-men prevent him from elevating himself. In consequence of its neglect or corruption, if prolonged, the able men of the country are spurred by their natural and honourable ambition to the overthrow of the—in their eyes, and in the eyes of the nation—guilty rulers.

A new dynasty is then established, which consolidates its power by restoring the institution in integrity and purity; and all the legislative and executive powers are again placed in the hands of the Heen-nang, the wise and able, who—the ablest men being always the best—rule the country, not only with great soundness of judgment, but with much of that 'righteousness and benevolence' which is dictated as well by their own moral nature as by the old and venerated rules of national polity. Then follows one of those long periods which are marked in Chinese history by the reign of justice, peace, content, cheerful industry, and general prosperity, and a glorious succession of which has made the Chinese people not only the oldest, but so vastly the largest of all the nations."

To be sure, it is often objected to examinations that they encourage cram; that men who are actually far superior to others seem at an examination to be as much inferior to them, owing to timidity, nervousness, and want of presence of mind; and, moreover, that proved intellectual excellence is no guarantee for moral worth. Now, let us see what vitality there is in each of these objections. Whatever force there may be in the objection against cram, as derived from the practice of the Universities, it cannot affect the examinations of the Society of Arts. What is the accepted meaning of the word *cram*? Why *cram* means this:—When a limited number of examiners, whose habits are indolent, and whose knowledge is stationary, continue for years, off and on, to examine in the same subjects, a sort of family likeness is found to grow up in their questions; it is discovered that the examiners have favourite text books—that they have a fancy for a certain point of view—that they are great sticklers for certain forms of notation, which very few care about but themselves, that they have pet questions as posers—that some are found to dislike finery in dress, or *vice versa*. Now, acute men, taking advantage of these peculiarities and idiosyncrasies, make themselves acquainted with the grooves in which the examiners run; they map out the field of subjects intersected by these educational railroads, and they sell the information thus laboriously acquired to those who will pay them for it. I have heard of one gentleman of this much maligned occupation who applied the doctrine of chances and the theory of probabilities with much show of mathematical reasoning and manipulation of *x*'s and *y*'s to prove that if Mr. A. examined, the odds were fifty to one he would ask a particular question about the binomial theorem, and thirty to one that, if Mr. B. examined, he would ask a pet question of his own in logarithms. But who would take the trouble to trace the bias of an examiner of the Society of Arts, or who is there to pay for such a detective-like proceeding? But it has been said, men who are well up in subjects often pass a poor examination in them, and are out-stripped by others whose knowledge in the same subjects is of a very meagre kind. But is not one of the principal objects of the examination-scheme to bring out—not merely the acquisitions made—to test not alone the intellectual capacity—but presence of mind, coolness, sagacity, and quickness in seizing the point of the question put by the examiner. These moral qualities, at least as regards the business of life, are not inferior in value to intellectual power. And, with regard to the last objection, it seems to be founded on some kind of a vague notion of distributive justice, that if one man is endowed with high intellectual qualities, it is only fair that his neighbour, who is confessedly an intensely stupid man, should get all the moral ones. We might just as well argue that a man of genius must be of diminutive stature, of mean presence, or of feeble constitution. But the Almighty does not dispense the gifts of mind or body by measure; more frequently the rule seems to be that to him that hath shall be given more abundantly. This plea, then, for the higher moral constitution of the stupid falls to the ground, ignored as it is by all ex-

perience. It would be very strange were it otherwise, for, as the Council of the Society of Arts very justly observe in the notice of their Public Registry : " a young man who must necessarily have devoted to study a large portion of the time at his disposal, often very scant, can scarcely have had much leisure for idle pursuits or vicious indulgences."

Having at considerable length brought under your notice the advantages of education, I now come to the question, how may education most effectually be promoted? And on this question we shall find as many varieties of opinion as there are different shades of the same colour. One man is for the *laissez faire*, the let alone principle ; another says, let the State take the whole matter into its own hands, let it catch the truants, shut them up between four walls, and pour learning like physic down their throats. One man says, let us have a national tax for education. Oh, no, says a second, I am for a local rate. I am opposed to both your plans, cries a third ; I am all for voluntary contributions. Away with centralisation, exclaims one man ; it is Prussian and despotic. Down with local management, cries his adversary ; it is corrupt, and fattens nests of jobbers. One man shouts for secular instruction, another will have nothing but purely religious teaching ; while a third would attempt to combine them both. One man admits Dissenters openly to church schools; another would let them in by the back door ; while a third would exclude them altogether. So on I might continue to raise a saddened smile, or provoke indignant laughter. Now, then, as there are so many opinions on this well-ventilated, certainly not winnowed question, for it contains plenty of chaff, I cannot much be blamed if I, too, like Diogenes, proceed to roll my tub. Well, then, my view is this. We shall never radically improve education until we create a demand for it. I am convinced that the relation of supply to demand holds as strictly in this case as in that of iron or coal. This is the great principle to establish. Once let it be widely known and clearly understood that a new order of things has arisen—that, however it may have been heretofore, men will be promoted for their industry and talent, instead of by personal favour, or through family influence. Do this, and immediately two distinct consequences will follow. You will have employments more economically, because better, filled than formerly ; but far more than this will be the result. Education will receive an impetus which could be given it in no other way. I have no doubt whatever on my mind that within the last two years the government has done far more to promote and improve the education of the middle classes of this country, and to stimulate their energies by throwing open the appointments in the civil service of the East India Company to unrestricted competition, and by establishing examinations for official situations, than if they had founded fifty colleges in different parts of the country, and endowed 500 professorships in them. The means of knowledge and the facilities for learning are not difficult to obtain in this country. Everybody you meet is willing to give the struggling student a helping hand. What we lack is the strong propelling motive to indefatigable effort. Make education a necessary of life, and not merely a luxury, and depend upon it men will procure it, come by it how they may. Create the demand, and the supply is sure to follow. Whether England shall elevate the tone of its education or raise the standard of its instruction, is not a question for a government to decide. It does not depend on the Lords, it does not rest with the Commons ; it is a question entirely within the control of the people themselves. Let the employers of labour promote only the educated and the industrious, and an ample supply of the educated and industrious will be forthcoming. Let them do this and then urge the government to follow their example. What can be more hypocritical or contemptible than for a man to make a speech, a flaming speech, perhaps, on the plat-

form at some education meeting, abuse the government, censure the Committee of Council, hold up the finger of warning to the Church, and then go home and bestow any bit of patronage or office in his gift on the idle or worthless, on the mere ground of interest or acquaintance?

My arguments do not touch the case of the very poor, for whom the public is quite as much bound, under a common sense view of the case, to provide common learning, as it is to find common food or common clothing. If we admit the truth of principles long acted upon in this country, the question of public education needs no discussion to enable us to find its true solution. Some people talk a great deal about the state—they are afraid of the power of the state, they dread the influence of the state, they warn their neighbours against the encroaching despotism of the state. I believe the old Whig formula is gone somewhat out of fashion, " The power of the crown has increased, is increasing, and ought to be diminished." Now, people who speak of the state in this way seem to talk as if the state were some foreign mysterious power, incessantly striving to bring us all under its yoke—some foreign despotism, whose insidious encroachments on our liberties we ought ever to be on the watch against. Apprehensions such as these may have been very natural and well-founded in the reigns of Charles I. or James II., but now they are wholly groundless. So true it is that words and names—mere sounds—are indestructible, while the solid material—things they represent—have ages ago passed away. Where is the cross at Charing ? or the knights templars of the Temple ? or the convent which stood in Covent-garden ? What is the state ? The state is the government. What is the government ? The creature of the House of Commons. What is the House of Commons ? The creation of the people. Thus the voice of the state is the intensified voice of the people. We have no government in the proper sense of the word ; that is, a body which originates measures on its own responsibility and is prepared to stand or fall by these measures. We have an administration prepared to embody into laws the clearly-expressed will of the people. Therefore, measures must be ventilated, as the phrase goes, before they can with any prospect of success be introduced into the House of Commons, and there they must pass through many stages of probation and trial before they are finally taken up by the government of the day and enshrined in the statute book. Hence in this country the necessity for agitation and the use of discussion. But I will not pursue this subject further.

I will conclude these lengthened observations by showing how this question of supply and demand in education affects the social standing of the educator. Now the value of the article in which the teacher deals, and the estimation in which he is held, will in a great measure determine his social standing. Where education is but lightly valued, its professors are but little esteemed. Where, as in the Universities, instruction in certain branches of knowledge may lead to honour or to social position, the teacher there may take a higher grade. Accordingly, we find that divinity, law, and medicine are called specially the learned professions, because the subjects about which they are occupied are some of the highest and most important which concern man either in his future or his present state. Consequently, wherever education is highly valued, the office of the educator stands high. In ignorant and barbarous communities he is either not found at all, or he is placed very near the bottom of the social scale. In ancient Greece, where philosophy was the highest and noblest subject of human thought, statesmen and generals were its lecturers. In ancient Rome, where philosophy was despised, its teachers were slaves. The conclusion I come to, therefore, is this, that the social standing of the teacher can only be advanced by enhancing the value of the article he trades in. When pupils shall flock in crowds after the teacher of knowledge, praying for admission to his lectures, he

will take a very different position from that he now fills. At present Mr. Squeers is only too often the type of the schoolmaster in remote districts, and this brings me back again, by another train of thought, to the principle I set out with—that it is only by some such testing of results as I advocate that the honourable profession of teacher can be purged of such men. The state cannot interfere with them—they would refuse admission to Government or to any other inspectors. Parents of pupils are no judges of a schoolmaster's qualifications. It is only through some such testing tribunal as I advocate that the incompetency of men of this stamp could be detected and exposed through the proved ignorance of their pupils. The social position, then, of the schoolmaster can only be raised by elevating the educational platform on which he stands. The needs of society require that, while some are engaged in promoting its welfare by improving themselves, others must devote their time to training the young to follow in the same course. We are compelled here as elsewhere to apply the great principle of the division of labour, on whose development the advancement of society mainly depends. There is a very admirable lecture, by Mr. Bazley, of Manchester, on the "Labour of Life." It has recently been published in a cheap form. I cannot do better than direct your attention to it. Speaking of mental labour, he says:—"With the progress and increase of society the number of those whose labour consists of mental rather than of physical exertion becomes more conspicuous. The pursuits of men being governed by the law of supply and demand, professions, as well as trade and commerce, are called into existence to suit the exigencies of the age. Professional men, consisting of medical practitioners, lawyers, clergymen, engineers, architects, and men of science, and of those upon whom the governing power of a country devolves, are as requisite for the good of the common weal as are those who perform bodily and visible labour. Indeed, the labour of the mind exceeds, in national importance and usefulness, the mere drudgery of muscle and of physical force. To the mental services of professors of every class the inhabitants of the earth owe an extent of gratitude which can never be sufficiently acknowledged. From the ancients and their successors, modern civilisation has derived the fruits of both accumulated labour and wisdom. Nor is the apparent leisure of many of the most intellectual occupations to be despised. Unfortunately, the ignorant do not appreciate mental labour, and, though the midnight student, wasting in power, like the flickering light of his lamp, may be developing the hidden treasures of nature, art, or science, and preparing for the beneficial and active exercise of some new industry, his toils are often unrewarded, and, with Butler, the eulogy of the monumental stone becomes his portion, instead of the bread which he needed."

But to return, the educator labours under other disadvantages. He finds great difficulty in augmenting the stock of his intellectual acquisitions. Now this to some persons may appear very strange, but so it is. There is no man, no matter what his occupation, business, or profession, if he have any leisure at all, who is not in a more favourable position to make intellectual progress than the schoolmaster. The reason is plain. A man of business who is engaged all day in his warehouse, or superintending his workmen, or transacting commercial affairs, when he returns home in the evening finds it a positive relief to take up a book or a subject of study, because in so doing he brings into play a set of faculties which were dormant during the day. This is the reason why so many merchants and other men of business have been distinguished for their attainments in literature or science. But when the schoolmaster has finished his day's work, if he takes up a book, he calls into action only faculties already jaded by the labours of the day. The wonder should be, therefore, that he has done so much, rather than that he should have done so little. But, however, this may be, you perform a work without which society

could not well hold together—you expend your energies in improving others rather than in accomplishing yourselves—you have the priceless satisfaction of your own consciences that you do the work which is given you to do, and this is a reward which finally is the greatest we can, any of us, obtain. Yours is a great work, if you will only so regard it. A holy work, if only the spirit from above be given to enable you to consecrate it to its proper uses:—

"All the means of action  
The shapeless masses, the materials  
Lie everywhere around us. What we need  
Is the celestial fire, to change the flint  
Into transparent crystal, bright and clear."

#### MEN AND MANUFACTURES.

By W. BRIDGES ADAMS.

Mr. J. P. Danson and Mr. Chadwick demur to my view of cotton manufactures in Lancashire, and the ultimate transfer to India of a large part of those operations. I assure Mr. Danson that I do not contemplate any sudden exodus to take place precisely on the 1st of January, 1857 or 1858. I merely look at this fact, that cotton is grown in India, and will ultimately be grown more largely as railways open up the means of exporting it; and that in the districts where it will be most largely grown, there exists an indigenous population, very docile and obedient, of the organisation precisely adapted for the textile arts, and who can be maintained on their own soil at a much cheaper rate than similar people can be bred and maintained at in Lancashire. And so soon as railways shall furnish the means of carrying machinery to these cotton-growing spots, English enterprise,—which will embark largely in cotton-growing, to the exclusion of the present miserable system in India, where monied men advance cash to the cultivator to buy the seed, and take a mortgage on the crop,—that English enterprise will also see the desirability of giving the crop additional value by spinning and weaving it, and thus practically lessening the cost of transit by the increased value of the commodity. Free Trade, of which Manchester has been the especial advocate, must bring this to pass. Free trade infallibly guides production to the locality of the greatest economy, and, therefore, the advantages preserved by Lancashire over India, because India is without roads, must disappear as fast as these roads shall be made. The elements of the cotton trade are—labour of a peculiar class,—climate, natural or artificial,—cotton, and machinery. India has the labour indigenous, the climate indigenous, the cotton indigenous, and lacks only the machinery. Lancashire has labour artificial, climate artificial, cotton artificial, and only machinery indigenous. Any political economist can work out the question of what the result will be when the machinery can get to India, the original seat of the cotton manufacture. How fast, or how slowly this may come to pass, may be matter of opinion; but in these days it would not be well to count too much on inertia, or build new mills in Lancashire too recklessly. There is no fear of this in shrewd Lancashire, where the signs of the times are read as aptly as anywhere. Indian workmen will need training, but the example once set, some twenty-five years would probably suffice to raise the new manufacture to a palmy condition, not again to be affected by foreign or home rivalry. If Mr. Danson be contemplating a new mill, he will do well to ponder over these things.

And now to Mr. Chadwick and "races of workmen." To avoid confusion, it will be as well just to settle our terms, about which Mr. Chadwick seems to labour under misapprehension. By the term Saxon, I mean that class of men found commonly in Sussex, mostly fair-haired and blue-eyed, of middle stature, very moderate acuteness of intellect, or delicacy of nerves, and great general robustness, and good digestion, the class of men, whether found in Sussex or elsewhere, from whom

navvies and sailors and the best class of agricultural labourers spring instinctively.

By the term Celt, I mean that class of men found largely in Southern France, in Southern Ireland, and in some parts of the Scottish Highlands, men mostly dark-skinned and dark-haired, of little physical strength, as compared with the Saxon, but capable of occasional great nervous energy, of delicate organisation, and with acute perceptive faculties.

The Saxon belongs to the cold climate and open air work, that is, being trained in the cold climate, though he may work in the warm climate, it is not congenial to him. His labour of love is in the open air. The Celt belongs to the warm climate, and though he may work in the cold climate, it is not congenial to him. His "labour of love,"—when he loves to labour—is in the warm climate, or under shelter.

In speaking, therefore, of races of workmen, it must be understood that some countries and climates produce the Saxon variety in the greatest abundance—others the Celtic variety. But it is the intermingling of the two which produces what we are accustomed to consider as an Englishman—physical power united with mental acuteness.

"A man of the real grit" is an English provincial expression, sometimes used in the United States; "of the rock of the Hartzgeberge," say the Germans, both meaning that class of man whose instinct is to tame the beast to his uses, and create the field out of the felled forest—to span the wide river with a bridge or thread it with a boat—to ride the wide ocean with a ship—drain the morass—and level the mountain to make roads. Such men grow on soil congenial to them, and even Mr. Chadwick bears testimony to the virtue that dwells on Blackstone edge:—

"The most eminent of the 'navvies' in England come from the hill districts of sandstone-grit and granite in Lancashire and other northern counties, where there are favourable sanitary conditions of pure soft water and forced ventilation, and some natural drainage by winds and storms. Their alimentation, too, has been generally good. Some of the leading navvies have represented to me that they consider eleven pounds of meat per head per week, a necessary of life for good work; but I should not accept this as to the species of diet as an absolute dogma, for they, themselves, have admitted to me that eaters of oatmeal and potatoes (with milk), though in great quantities, have done good work with them; what, however, appears to be certain is, that a superior alimentation at the least is required, though it is by no means the sole requisite, and mental as well as bodily stimuli are needed for the attainment of superior work.

Pure water, forced ventilation, natural drainage by winds and storms, and eleven pounds of meat per week on the grit and granite, go to the creation of the most eminent navvies in England, and that is, in other words, saying—the best soldiers and sailors also, the staple Englishman who practically demonstrates, day by day, that these islands and their dependencies belong to him and his race, from which they are not to be dislodged by any inferior races.

Mr. Chadwick will not assert that by any process he could convert these navvies into spinners and weavers, though he states that their descendants, born and bred in the cities, "lose on the average ten years of working ability." *A fortiori* what would they lose, kept in the hot and moist atmosphere essential to the perfect spinning and weaving of cotton?

Again, in Piedmont, we have this same kind of grit and granite-grown man, as Mr. Chadwick very clearly describes him:—

"From time immemorial, the Piedmontese provinces of Ivrea, Brille, Varallo, and others, but especially the high country near the lakes, including the cantons of Arona and Bellazona, are in the habit of sending every year into other countries a considerable number of active and industrious men, who represent precisely this class of small contractors, the employment of whom has generally the best results. Many of these migrants are painters, plumbers, chimney-doctors, and decorators; but their

most remarkable talent is that for 'navvying,' and for this qualification they are sought at great distances, as they will be wherever their work can be appreciated. In those healthy districts the peasantry have had for a great number of generations substantial food, as is generally the case in irrigated countries, where cattle are numerous. It is doubtless by these means that the Piedmontese 'navvy' is so indefatigable, and also exempt from the diseases that generally prevail amongst the labouring classes. I have seen them, without suffering any injury from it, remain twelve hours working in a deep cutting, with their heads uncovered, where the reverberation of an Italian sun would have been intolerable to men of any other mould. It is to be observed that they execute quickly and well whatever they undertake. To see them form a slope (*dresser un talus*), or dislodge a rock, either with the pickaxe or with powder, one cannot help asking—Are they not rather artists than labourers? For they have the secret of combining an extraordinary speed in the work they undertake, with the most perfect execution; and herein lies their great value. They will not accept work by the day; but it is not their habit to work lazily, and even the highest wages barely remunerate their labour."

Painters, plumbers, chimney-doctors, and decorators, still we do not find them working in cotton-mills!

Mr. Chadwick imputes to me as an offence that I consider our own race to be superior, though almost in the same breath he asserts that English labour is cheaper and better than any continental labour. We scarcely require his assurance that the children of Saxons and Celts, and all other manner of men, can be trained to industry or idleness, comfort or misery, but this is not the question. In choosing occupations for the children of men, we should have regard to their natural aptitude. We should naturally choose the Saxon, the men of "grit," for the land and out-door work, and take the Celt for the artist and in-door work. We may, it is true, breed down the Saxon till he becomes enfeebled enough to spin, piece, and weave, without the surplus energy that breaks threads instead of mending them; but we had better take the smaller-bodied and lighter-fingered Celt.

If Mr. Chadwick will demonstrate that in the hot and moist climates or temperatures good for spinning cotton thread—and the identical temperature of liver complaints—he can breed up strong men fit to take suit and service in the battle-field, if need be, my argument is at an end; but if we can only maintain our cotton manufactures by the depreciation of our men, then we had better let them go to that other class of British subjects who inhabit British India. Mr. Chadwick quotes an opinion of Count Gasparin, in France, on the qualities of men:—

"Beware! you will not get from land there the promised return. I know the men of that country; they want activity; the pupils who come from it to our veterinary school do not strike hard upon the anvil!" "What fine and just appreciation!" exclaims the Count. There, where the labourer's arm is enervated, whether by physical debility, arising from a bad regime, or by long habits of idleness—there, where they do not strike hard upon the anvil, the value of the land is affected by their depression! Of old our forefathers said, 'Tant vaut l'homme, tant vaut la terre'—(as is the worth of the labourer, so is the worth of the land.)"

Can the men of our Lancashire cotton mills "strike hard upon the anvil?" If not, "as is the worth of the labourer, so is the worth of the land." If ever the spinning and weaving of textile materials shall become our chief employment, we shall find soon some foreign conqueror, who will rule us as we now rule the natives of India, though probably with less justice and more hardship. Before it comes to that we shall get some "commissions of inquiry" as to which are our most desirable trades to follow.

Mr. Chadwick is a better collector of data for verification than a logician. He quotes precedent for denominating Mr. John Kennedy "the father of the cotton manufacture," in the exchange of cotton compliments at Manchester, but he would have done better to have quoted

a fact than a fiction. Father-in-law would have been the more correct term. A very valuable and worthy man was Mr. Kennedy, though not a Lancashire man—one whose sterling merits could very well dispense with a factitious reputation.

In using the term, "slaves of the mill," I speak advisedly. If a large number of people are brought up to no process of getting a living save working in cotton mills, and are physically unfitted for other work thereby, legal freedom in no way helps their practical compulsion. The farmer races, whom Mr. Chadwick describes as alternating the labour of the field with that of the loom in their own dwellings in bad weather or darkness, might say "nay" to the mill owners' wages, but they are not of the class to weave miles of cotton cloth for export. They and their wives spun and wove "homespun" goods for home wear, but did not deal in what Cobbett, with a sort of rough though bigoted perception, called "the flimsy fabrics of Sir Robert Peel."

#### INDIAN IRON.

The Government of Bengal has just published a report on a new iron field examined by Mr. Smith, a viewer, sent out by the Court of Directors. It is at Barrool, a place about ten miles beyond Raneegunge, the last station on the existing railway. It is close to the coal mines, and the means of carriage both by rail and water are close at hand. The quantity of ore Mr. Smith estimates at about 6,400,000 tons to the square mile, but the limits of the field remain to be ascertained. The first pit, says Mr. Smith, "was sunk to a depth of 32 feet, intersecting to that depth four seams of iron ore, of the aggregate thickness of 18 inches, which with the seams before known make a total of 38 inches of clay iron ore of very superior quality. In addition to these, a vein of carboniferous iron ore, known at home as 'black band,' was passed through, 3 feet 6 inches thick. It is not nearly so rich in iron as the Scotch black band, and is estimated to yield no more than from 20 to 23 per cent. in its raw state; but when calcined—a process which this ore, as well as all the clay ores found here, must go through before introduction to the blast furnace—it will yield over 40 per cent. of iron." A further trial was made under the superintendence of Mr. Biddle, and the pit "has been continued to a depth of 51 feet 11 inches, another seam of ore, 2 feet 4 inches, and by analysis containing 42 per cent. of iron, being discovered; so that, in a shallow section of 52 feet, we have 38 inches in separate beds of excellent clay iron ore, and 52 inches of carboniferous or black band iron ore." Cheap indigenous iron, sufficiently good for rails, is at this moment the want of India. The railway is not advancing very fast, but, had it been pushed on as was originally expected, the works would have been at a dead lock for want of permanent way. There is a large mining population in the neighbourhood of Barrool, while the great reservoir of labour, the Dhangur and Cale villages, are within an accessible distance. The land belongs, it is believed, to the Bengal Coal Company, which is about to commence experiments in the manufacture of iron.

#### Proceedings of Institutions.

**ISLINGTON.**—The Literary and Scientific Society have engaged Professor Levi to deliver four lectures on "The History and Principles of Commerce and Banking," on January 19th and the three following Monday evenings. The Committee propose sending a certain number of free tickets to each of the leading banking establishments of London.

**MITCHAM.**—At the Literary Institution, on Tuesday evening, the 25th Nov., Mr. F. L. Simmonds delivered a

lecture to the members of the above Institution, "On the Food Delicacies of Various Nations." The lecturer had accumulated a vast fund of information on the subject, and described the substances used for food in different parts of the world, from the sea-slugs, rats, &c., of China, to the refined condiments of Soyer, in a most interesting manner. The lecture was illustrated by a collection of many preserved articles, used as food in different parts of the world.

**NORTHWRAM.**—The fifth annual report of the Mechanics' Institution congratulates the members on the satisfactory progress made during the past year. One principal cause of this improvement had been the removal of the institution from the inconvenient premises it formerly occupied to a commodious room, for the gratuitous use of which the directors were indebted to the chairman, Michael Stocks, Esq., at whose expense it was built, and to the Rev. W. H. Wawn. Two lectures only had been given during the year—one by the Rev. J. V. Macrae, the other by Mr. Washington, the vice-president; but the directors contemplated arranging a course for the ensuing season. The directors' were happy to say that the classes had been fairly successful. They had had the advantage of the valuable aid of Mr. Washington, assisted by Messrs. Holt, Smith, Hebblethwaite, and Wood. Instruction had been given in reading, writing, dictation, arithmetic, and grammar. The attendance at present was 33, with a prospect of a further increase. The female classes met every Tuesday and Thursday, under the superintendence of a committee, consisting of ladies; and the directors tendered their cordial thanks to Mrs. Wawn, the Misses Emmett, Miss Carter, Miss Crawshaw, Miss Crewdson, Miss Jagger, and Miss Appleyard, who had taken upon themselves the care of these classes, which were making considerable progress in reading, writing, and domestic economy. The members of the Institution numbered 91, of whom 1 was an honorary member, 13 were annual subscribers, 13 quarterly subscribers, 31 who attended the male classes, 26 who attended the female classes, and 7 nominees recommended by subscribers of £1 per annum. The increase, when compared with the corresponding period of last year, was not less than 54. Thirty-one volumes had been purchased and added to the library during the year, besides which the institution was much indebted to several friends for their kind contributions. The present number of books is 185, being 78 volumes more than at the last annual meeting. The financial state of the Institution is very good, and the directors tender their thanks to those gentlemen who kindly assisted them by their annual subscriptions.

**SOUTHAM.**—A meeting was held at the Court-house, on Tuesday, the 10th ult., in connection with the Mutual Improvement Society established at Southam, at which upwards of two hundred persons were present, comprising members of the working as well as of the higher class, the Rev. J. W. Webb, curate of Southam, in the chair. The proceedings of the evening were interspersed with some excellent music. After a few introductory remarks from the chairman, H. L. SMITH, Esq., rose to propose—"That this meeting is of opinion that immediate steps should be taken to extend the influence and to increase the number of members of the Southam Mutual Improvement Society; and this meeting pledges itself to use every exertion to produce this desired result." After speaking of various causes which had influenced the success of similar Societies, he said that one reason why the working classes did not attend Institutions of that kind was the unfortunate prejudice embodied in the words "I don't see the use of it." Actuated by those prejudices, they also withdrew their children from school before they had had time to learn anything. And they were not altogether to blame for that. Till very recently, little had been done to induce them to adopt a different course. Lately, an idea had been put forth which, if carried out, might have a most salutary effect. It was, that in public offices, railway offices, banking

establishments, and in the shops of tradespeople, the persons employed should have been educated, and have obtained certificates of qualification. The idea sprang from the inefficient manner in which some departments of the Crimean army, the Commissariat, &c., were carried out, and the people found fault with the government, whilst they practised a similar system themselves. In private commercial establishments, £70, £80, £100, £200, and higher sums per year were bestowed, by favouritism, upon persons much less qualified to undertake the duties than others who were entirely overlooked. That evil might easily be remedied by the simple plan of throwing open their offices, without any favour, to those who had received certificates as to talent and conduct. Mr. Smith then gave instances of the manner in which some even responsible situations were filled. After speaking of the advantages of regular instruction, and specially advocating the establishment of classes, Mr. Smith mentioned several gentlemen who had kindly promised to give lectures during the winter, and expressed an earnest hope that they would be well attended. The resolution was seconded by Dr. Stillman, and after addresses from Messrs. R. F. Welchman, E. Poole, Bickerdike, W. Blundell, and J. Read, the meeting separated.

## MEETINGS FOR THE ENSUING WEEK.

- MON.** London Institution, 7. Dr. John Tyndall, "On the Nature and Phenomena of Light."
- TUES.** Entomological, 8.
- Royal Institution,** 3. Professor Faraday, "The Attractions of the Magnet."
- Pathological,** 8. Anniversary.
- WED.** London Institution, 3. Professor Rymer Jones, "On Viva-ria and their Inhabitants."
- Geological, 8. I. Prof. Owen, F.G.S., "On the Dichodon Cuspidatus from the Isle of Wight." II. Prof. Owen, F.G.S., "On a Fossil Serpent from Salonika." III. Mr. J. W. Salter, F.G.S., "On some additional Fossils from the Longwynd." IV. Prof. W. Thomson and Mr. J. W. Salter, F.G.S., "On some new Silurian Species of Acidaspis from Ayrshire and Shropshire."
- Pharmaceutical, 8.
- Royal Soc. Literature, 8.
- THURS.** Royal Institution, 3. Prof. Faraday, "The Way in which the Attractions of the Magnet are Related to and Produced by each other."
- Royal Society Club, 6.
- London Institution, 7. Dr. R. E. Grant, "On the Natural History of Extinct Animals."
- Antiquaries, 8.
- Photographic, 8.
- Royal, 8.
- FRI.** Astronomical, 8.
- SAT.** London Institution, 3. Mr. T. A. Malone, "On Experimental Physics, chiefly in Relation to Chemistry."
- Medical, 8.

## PATENT LAW AMENDMENT ACT.

## APPLICATIONS FOR PATENTS AND PROTECTION ALLOWED.

[From Gazette, December 26th, 1856.]

Dated 8th September, 1856.

2092. Boniface Sabatier, Paris—Improvements in photography.

Dated 8th October, 1856.

2358. David Joy and William Holt, Leeds—Improvements in hydraulic motive power engines, and the application thereof to certain useful purposes.

Dated 31st October, 1856.

2476. William Edward Newton, 66, Chancery-lane—Improved machinery for rolling and forging iron or steel. (A communication.)

Dated 31st October, 1856.

2559. Didier Elizabeth Ernest Ausset de Chavanon, Paris—Improvements in cleaning all sorts of cloth fabrics and skins, by the application of a substance so called Carburine.

Dated 19th November, 1856.

2728. Thomas Gilman, 12, Creed-lane, Ludgate-hill—Improvements in boxes or packing cases.

2737. James Yearsley, Saville-row—An improved method of and instrument for applying artificial tympanums.

Dated 20th November, 1856.

2754. William Irlam and John Phillips, Gibraltar Iron Works, Newton Heath, near Manchester—Improvements in working railway signals or alarms.

Dated 28th November, 1856.

2813. Robert Griffiths, 69, Mornington-road, Regent's-park—Improvements in vessels and engines for propelling vessels.

2820. Henry Waller, Lickhill, near Calne—Improvements applicable to vessels used in the manufacture of cheese.  
Dated 29th November, 1856.
2827. Lemuel Wellman Wright, Sydenham—Improvements in machinery for bending plates for the formation of pipes and tubes.  
Dated 1st December, 1856.
2840. George Collier, Halifax, and James William Crossley, Brig-house, Yorkshire—Improvements in apparatus used in hot-pressing and in the means of manufacturing parts of apparatus used for such purpose.  
Dated 3rd December, 1856.
2862. James Mizen, Deptford—Improvements in apparatus for making gas, partly applicable to culinary or other domestic purposes.  
Dated 6th December, 1856.
2894. William Hadfield Bowers, Gorton, Manchester—Improvements in apparatus to be used for the purposes of distillation.
2896. Christian Schiele, Oldham—Certain improvements in machinery or apparatus for cutting nuts, screws, or bolts, and toothed wheels.
2898. John Longbottom, Leeds—Improvements in generating, sur-charging, or superheating steam.
2900. Henry Twisleton Elliston, Leamington—A new or improved method of hanging and closing doors.
2902. John Leslie, Conduit-street—An improvement in stoves and fire-places.  
Dated 8th December, 1856.
2904. George Collier, Halifax, and Edwin Heywood, Sutton Cross-hills, near Leeds—Improvements in steam boilers or steam-generators.
2906. John Aston and John Brant, Birmingham—An improvement in the manufacture of covered buttons and covered ornaments.
2908. James Blain, Belfast—Improvements in Jacquard apparatus for weaving.
2910. Robert Frederick Miller, Hammersmith—A mode of printing tables of fares, advertisements, notices, tablets, ornamental designs, figures, and other like announcements on painted or other surfaces to supersede writing.  
Dated 9th December, 1856.
2912. Josiah Harris, Frodsham, Cheshire—A Pneumatic Signal Apparatus, and mode of working the same.
2914. John Browning, 111, Minories—Improvements in stereoscopes.
2920. Joseph Walton, Styall, near Wilmlow, Chester—Improvements in tables.
2922. Edmund Knowles Muspratt, Liverpool, and Balthazar Wilhelm Gerland, Hesse Cassel, now in Manchester—Improvements in treating waste liquors produced in the manufacture of chlorine, and in separating nickel, cobalt, and copper from liquids containing them in combination with manganese and iron.
2924. Frederick Oldfield Ward, and Frederic Wynauts, Rue de la Paix, Brabant, Belgium—Improvements in the manufacture of manures.
- Dated 10th December, 1856.
2926. William Storey and Thomas Storey, Lancaster—Improvements in forming ornamental devices on the surface of paper and certain prepared woven fabrics.
2927. Alexander Macarthur, Dalsholm Paper Works, Dumbarton, N.B.—Improvements in boiling, bleaching, washing, or cleansing fibrous materials.
2928. William Edward Newton, 66, Chancery-lane—Improved apparatus for supplying steam boilers with water. (A communication.)
2929. Thomas Smith, West Smithfield—An improved joint for folding handles or sticks of umbrellas and parasols.
2930. John Cornes, Swan-lane—Improvements in chaff-cutting machines.  
Dated 11th December, 1856.
2931. Jacob Green, Philadelphia, U.S.—Improvements in the mode of manufacturing glass lights for street vaults, ships, buildings, and friction boxes, and the apparatus for ladling or conveying the molten glass from one furnace to another.
2934. Michael Burke, Liverpool—Improvements in mariners' compasses to counteract local attraction.
2935. Michael Burke, Liverpool—Improvements in the construction of anchors.
2936. Thomas Wheatley and William Wheatley, Openshaw, near Manchester—Improvements in fog-signals and in the means of working the same.
2937. William Walker Reay, Birmingham—An improvement or improvements in shoes for horses and other animals.
2938. Victor Delperdange, Rue Verte, No. 125, Schaerbeek, near Brussels—Improvements in metallic and elastic packing.
2939. Richard Emery, 6, King-street, St. James's-square—Improvements in the construction of certain kinds of agricultural implements (for breaking clogs of earth and levelling the soil), called harrows.
2940. William Lund, Fleet-street—An improved "spring clip," for holding or retaining loose papers, or other loose articles.
2941. George Collier, Halifax—Improvements in machinery or apparatus for the manufacture of piled fabrics.
2942. Frederick William Anderton and Joseph Beanland, Bradford, Yorkshire—Improvements in apparatus or means in connection with furnaces to facilitate the consumption of smoke.
2943. William Charles Theodore Schaeffer, 3, Great Winchester-street—Improvements in distilling fatty and oily matters.
2944. William Player Miles, Patent Lock Factory, near Forest Hill Station, L. and B. R.—Improvements in locks and fastenings. (A communication.)

2945. Charles Humfrey, 14, The Terrace, Camberwell—The application and use of paraffine in the manufacture of hair-oils, ointments, and plasters for medical purposes.  
 2946. Henry King, Frome, Somerset—Improvements in machinery for threshing and dressing wheat and other grain.  
 2947. William Colborne Cambridge, Bristol—An improved construction of portable railway.  
 2948. Louis Joseph Frédéric Margueritte, Paris—Improvements in purifying rock and sea-salt.

Dated 12th December, 1856.

2949. Peter Armand le Comte de Fontainemoreau, 39, Rue de l'Echiquier, Paris—Improved railway signal apparatus. (A communication.)  
 2950. John Turner Wright, and Edwin Payton Wright, Birmingham—A new or improved manufacture of ropes, cords, lines, twines, and mill bandings.  
 2951. Raffello Louis Giandonati, of the firm Dodge, Bacon, and Co., St. Paul's Church-yard—Improvements in overshoes. (A communication.)

2952. Edward Paton and Charles Frederick Walsh, Perth, N.B.—Improvements in apparatus for charging and capping the nipples of fire-arms.

2953. William Foster, Black Dike Mills, Bradford, Yorkshire—Improvements in petticoats.

2955. John Cawood, James Beeson, William Smith, and Richard Henchley, Derby—Improvements in the valves of steam engines.

2956. James Hartas Headley, Walpole, county Haldimand, Canada—An improved mode of manufacturing artificial granite in various forms, and plating or veneering the same with marble, so as to present an exterior of marble and an interior of stone or granite.

2957. Henry Pease, Pierremont, near Darlington, and Thomas Richardson, Newcastle-on-Tyne—Improvements in the manufacture of compounds of alumina.

2958. Samuel Newington, Ticehurst, Sussex—Improvements in hand hoes and cultivators.

2959. William Bevers Birkby, Upper Rawfolds Card Works, Cleckheaton, near Leeds—Improvements in the manufacture of pointed wire files used in the preparation of flax, tow, hemp, and other fibrous substances.

2960. George Sherwin, 168, Waterloo-road, Burslem, Staffordshire—Improvements in the manufacture of fire bricks, tiles, crucibles, and other articles, where fire clay is used.

2961. George Tomlinson Bousfield, Sussex-place, Loughborough-road, Brixton—Improvements in looms for weaving cut piled fabrics double. (A communication.)

Dated 13th December, 1856.

2963. John Smith, Failsworth, near Manchester—Improvements in Jacquard machines for weaving.

2964. Louis Braun, Wood-street, City—Improvements in caps and such like articles.

2965. John Metcalf, Newton Heath, near Manchester—Improvements in the manufacture of alum or sulphate of alumina.

2966. Henry Wickens, Tokenhouse-yard—A throat guard or apparatus for protecting the throat against garotting or other external violence.

2967. James Wadsworth, Hazelgrove, near Stockport—Certain improvements in heating and ventilating apartments, buildings, and ships, and in apparatus applicable to and to be used for such purposes.

2968. George Littlewood, 93, London Wall—Improvements in printing geometric patterns.

2969. Archibald Turner, Leicester—Improvements in the manufacture of elastic fabrics.

Dated 15th December, 1856.

2970. John Grant, Hyde-park-street—Improvements in heating or cooking by gas, and in apparatus for effecting the same.

2971. John Millner, 18, Charlton-street, Pimlico—Improvements in chimney cans or caps.

2972. Luke Duncan Jackson, Underwood, Nottinghamshire—A pneumatic break or apparatus to be attached to railway carriages or trucks for the purpose of retarding or stopping the same.

2973. Auguste Fournier des Corats, 8, Rue des Trois Pavillons, Paris—Certain improvement in lamps.

2974. Alfred Vincent Newton, 66, Chancery-lane—Improvements in machinery for boring, turning, tapping, and screwing fittings for gas, water, steam, and other pipes, and in vices for holding the same when they are operated upon. (A communication.)

Dated 16th December, 1856.

2975. William Austin, Upper Portland-place, Wandsworth-road—Improvements in pipes or tubes, and in the method of joining and laying the same.  
 2977. Edwin Heywood, Sutton Cross Hills, near Leeds—Improvements in machinery or apparatus used in weaving.  
 2979. William Carwood, Back Church-lane—An improvement in steam engines.  
 2981. John Stobo, Leven Bank Works, Dumbarton, N.B.—Improvements in forcing or lifting corrosive or chemical liquids.  
 2983. William Edward Newton, 66, Chancery-lane—An improved process or processes of treating feldspar so that it may be used as a manure, or for obtaining potash or soda therefrom. (A communication.)

## WEEKLY LIST OF PATENTS SEALED.

December 24th.

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| 1500. Louis Cornides.                                | December 30th.   |
| 1517. Edward Burnand.                                | 1537. Frederick George Sanders.                            |
| 1534. Cornelius Moriarty.                            | 1538. Alfred Wild.   |
| 1591. George Sampson.                                | 1539. John Coop Haddan.                                    |
| 1627. Richard Dugdale Kay.                           | 1540. James Atkinson Longridge.                            |
| 1628. Robert Thomas Eadon.                           | 1545. George Tomlinson Bousfield.                          |
| 1640. Thomas Charlton and William Turnbull.          | 1569. Edwin Greenslade Bradford.                           |
| 1664. Arthur Neild.                                  | 1624. William Robertson.                                   |
| 1678. George Eskholme and H. Wilkes.                 | 1636. John Fowler and William Worby.                       |
| 1683. John Cartwright.                               | 1665. John Henry Johnson.                                  |
| 1704. William Stettinius Clark.                      | 1670. Henry Turner.  |
| 1728. Alfred Vincent Newton.                         | 1677. John Henry Johnson.                                  |
| 1736. John Imray.                                    | 1684. The Rev. George Jacque.                              |
| 1850. Augustus Pfaltz.                               | 1755. Charles Burton.                                      |
| 1890. Edwin Firth.                                   | 1766. Edward Lord, Thos. Lord, Abraham Lord, and Wm. Lord. |
| 1902. Thomas Bilbe.                                  | 1768. Thomas Byford.                                       |
| 2131. Constant Jouffroy Duméry.                      | 1769. Robert Stewart.                                      |
| 2132. William Stettinius Clark.                      | 1794. William Edward Newton.                               |
| 2199. Amos Hustler.                                  | 1818. Alexandre Tolhausen.                                 |
| 2219. Robert Mushet.                                 | 1943. John Henry Johnson.                                  |
| 2220. Robert Mushet.                                 | 1948. Jules Laleman.                                       |
| 2224. Thomas Wallace.                                | 2153. John Knowelden.                                      |
| 2267. Frederick Ransome.                             | 2168. Robert Mushet.                                       |
| 2319. George Ferguson Wilson and Alex. Isaac Austen. | 2170. Robert Mushet.                                       |
| 2330. Maria Farina.                                  | 2329. Walsley Preston.                                     |
| 2333. John Gedje.                                    | 2363. Wm. Stettinius Clark.                                |
| 2348. George Ferguson Wilson.                        | 2367. Charles Burton.                                      |
| 2368. William Nairne.                                | 2402. Samuel Bremner.                                      |
| 2390. Gustav Scheurmann.                             | 2428. George Wilson.                                       |
| 2391. Léopold Ador and Edouard Abbadié.              | 2443. Leon Joseph Pomme de Mirimonde.                      |
| 2471. John Shaw.                                     | 2455. Robert George Barrow.                                |
| 2500. William Woodford.                              | 2462. Henry Deacon.  |
|  | 2486. George Edward Johns.                                 |
|  | 2556. Charles Augustus Ferguson.                           |

## PATENTS ON WHICH THE THIRD YEAR'S STAMP DUTY HAS BEEN PAID.

December 18th.

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|-----------------------------|---|
| 3009. John Barnes.          | 3026. Henri Catherine Camille de Ruolz and Anselme de Fontenay. |
| 2966. Gotlieb Boccius.      | December 19th.  |
| 3028. Walter Mabon.         | December 20th.  |
| 2985. Francis Bennoch.      | 16. Thomas Mann.  |
| 3004. James Taylor.         | 33. John Healey.  |
| 3000. Thomas Symes Pridaux. | December 23rd.  |
|                             | 2996. Edward Joseph Hughes.                                     |
|                             | 3002. John Parkinson.   |
|                             | 3020. Claude Alphonse Roux.                                     |

## WEEKLY LIST OF DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

No. in the Register.	Date of Registration.	Title.	Proprietors' Name.	Address.
3919	Dec. 17.	Improved Sawing and Tenoning Machine	George John Calvert and Co.	York.
3920	" 22.	Flexible Felt Banded Hat.....	Benjamin Wilson.....	52, Bow-lane, City.
3921	" "	The Albany Shirt.....	Dent, Allcroft, and Co.....	Wood-street, City.
3922	" "	The Parallel Arrow Point .....	James Buchanan.....	215, Piccadilly.
3923	" 23.	{ Fastening for Coffin and other Handies, Trusses, Brackets, and other such-like Articles .....	John Newark, and Joseph Sergeant Rock .....	Coventry.
3924	" 29.	Inkstand .....	Edward Nevill.....	Birmingham.
3925	" 30.	Metallic Pen .....	Thomas Pemberton and Sons.. Gustavus Geo. Antonio Lund-wig Michael Schelhorn ....	Birmingham.
3926	" "	Improved Stay Fastener.....	Robert Boswell .....	Islington.